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<b>(21) International Application Number:</b> PCT/NZ99/00193 <b>(22) International Filing Date:</b> 17 November 1999 (17.11.99)  <b>(30) Priority Data:</b> 332836 17 November 1998 (17.11.98) NZ  <b>(71) Applicant (for all designated States except US):</b> FISHER & PAYKEL LIMITED [NZ/NZ]; 78 Springs Road, East Tamaki, Auckland (NZ).  <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> DARBY, Adam, John [NZ/NZ]; 2/24 Regia Close, Bucklands Beach, Auckland (NZ). MCGILL, Ian, Campbell [NZ/NZ]; 88 Kohimarama Road, Kohimarama, Auckland (NZ). NEVINSON, Lorraine [NZ/NZ]; 9 Alexander Avenue, Maraetai, Auckland (NZ). SMYTHE, Laurence, Evan [NZ/NZ]; 55 Corania Crescent, Lynfield, Auckland (NZ). TAYLOR, Samuel, John, Selwyn [NZ/NZ]; 9 Woodbine Avenue, Greenlane, Auckland (NZ). CHEYNE, Neil [NZ/NZ]; 8 Annagarz Rise, Howick, Auckland (NZ). HARWOOD, Jonathan, David [NZ/NZ]; 10B Halsey Road, Manurewa, Auckland (NZ).		<b>(74) Agents:</b> CALHOUN, Douglas, C. et al.; A J Park & Son, Huddart Parker Building, 6th floor, Post Office Square, P.O. Box 949, Wellington 6015 (NZ).  <b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, RU, SE, SG, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>
<b>(54) Title:</b> LAUNDRY MACHINE  <b>(57) Abstract</b>  A laundry washing machine having a drain pump operating regime where the pump is turned off briefly at periodic intervals to minimise blocking. The pump may be powered by a variable frequency, variable duty cycle drive to minimise the effects of ventilation and varying main supply voltage. The spin tub is braked by dumping the electrical energy regenerated by the main motor into the inductive winding of an ancillary motor, such as a pump motor, or of a solenoid valve. A method of powering on and off a laundry washing machine and an optocoupler drive circuit are also disclosed.		